

**IN THE SPECIFICATION**

Please add the following new heading and paragraph after the title on page 1, lines 6-7.

**CROSS-REFERENCE TO RELATED APPLICATION**

The present application claims priority of application serial number 103 18 068.0 filed on April 17, 2003 in Germany.

Please replace the heading on page 1, line 9 as follows.

**BACKGROUND OF THE INVENTION**Description

1. Field of the Invention

Please add the following new heading, before the paragraph on page 1, lines 14-22 as follows.

2. Description of Related Art

Please replace the paragraph on page 1, lines 14-22 as follows.

Particularly in the transmission of security-relevant data over an unsecured medium such as, for example, a common network and/or bus system. S, such data is usually added a high-grade redundancy so that almost all statistical and systematic errors of the overall transmission system do not have any negative impact on the integrity of the data. As a result, - whereby compliance to high security-related requirements with respect to the communication between individual network or bus users is achieved.

Please add the following new heading, before the paragraph on page 3, lines 4-9.

## BRIEF SUMMARY OF THE INVENTION

Please replace the paragraph on page 3, lines 11-14 as follows.

The solution of the task according to the invention is in a very surprising manner already given by a process ~~with the elements of claim 1, a device with the elements of claim 10, and a transmission system with the elements of claim 19.~~ The process is for the packet-oriented transmission of security-relevant data under application of at least one transmission system with a parallel and/or serial network and/or bus system with at least one user connected to it. The process includes transmitting the security-relevant data and redundant information based on the security-relevant data. The security-relevant data and the redundant information are transmitted in different packets. The device is for a transmission system with at least one parallel and/or serial network and/or bus system. The device is for the packet-oriented transmission of security-relevant data. The device includes means for the packet-oriented embedding of the security-relevant data and the allocated redundant information into different packets. The means are arranged on the side of the sender. The transmission system includes at least one parallel and/or serial network and/or bus system and at least one device.

Please delete the paragraph on page 3, lines 16-17.

Please revise the paragraph on page 5, lines 25-30 as follows.

Depending on the application-specific used serial and/or parallel networks and/or bus systems, ~~the invention moreover provides for the fact that the security-relevant data includes, comprises – besides the user data as such,~~

~~i.e. in particular input/output data and/or other safe process data~~ further data, in particular check and/or control data. The security-relevant data includes this further data besides the user data as such, i.e. in particular input/output data and/or other safe process data.

Please add the following heading, before the paragraph on page 7, lines 5-6 as follows.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Please revise the paragraph on page 7, lines 9-16 as follows.

~~The following shall be valid for the enclosed figures:~~

Fig. 1 is a block diagram showing~~shows~~ the invention-based structure of data packets for the packet-oriented transmission of security-relevant data-;

Fig. 2 is a block diagram showing~~shows~~ a further invention-based structure to illustrate the considerably enhanced identification of systematic errors-; and

Fig. 3 is a block diagram showing~~shows~~ the structure of a security-oriented message according to the current state of the art.

Please add the following heading, before the paragraph on page 7, lines 18-24 as follows.

#### DETAILED DESCRIPTION OF THE INVENTION

Please revise the paragraph on page 7, lines 18-24 as follows.

Referring to Fig. 1, ~~for the provision of a packet-oriented transmission of security-relevant data with a guaranteed high rate of user data and, at the same time, at a high level of protection against statistic and systematic errors,~~ an example for a security-oriented message comprising two data packets 1 and 2 ~~one and two~~ to be transmitted according to the invention is shown. This example is for the provision of a packet-oriented transmission of security-relevant data with a guaranteed high rate of user data and, at the same time, at a high level of protection against statistic and systematic errors.

Please revise the paragraph on page 7, lines 26-31 as follows.

According to the invention, a security-oriented message of a security-relevant data set - as shown in Fig. 1 - principally comprises at least two separate data packets 1 and 2. ~~O whereas~~ one data packet 1 comprises security-relevant data, and another data packet 2 comprises allocated redundant information.

Please revise the paragraph on page 7, line 33 to page 8, line 4 as follows.

Based on this structure in accordance with the invention, it is ensured that for a transmission of security-relevant data ~~also via an unsecured medium, i.e. essentially via a bus and/or network system which does not comply with security-oriented standards and/or comprises unsecured system users that~~ essentially all statistical and systematic errors are identifiable.

Transmission of the security relevant data is also via an unsecured medium, i.e. essentially via a bus and/or network system, which does not comply with security-oriented standards and/or comprises unsecured system users.

Please revise the paragraph on page 9, lines 14-17 as follows.

Data packet 2 completes completing the security-oriented message and comprises a redundant information 21 that is allocated to the information content of data packet 1, i.e. a data securing value 21 that is based on the user data 11 and the check data 12.

Please revise the paragraph on page 10, lines 4-9 as follows.

As data packets to be transmitted principally always comprise the same number of bits for protocol-specific reasons, the data packet 1 comprising the security-relevant data (which in the present example is the user data 11 and additionally the check data 12), and the data packet 2 (comprising the check sum 21), also have the same bit length n.

Please revise the paragraph on page 10, lines 11-19 as follows.

Consequently, the user data rate, (i.e. the relation between the useful data length and the overall data length, of a security-oriented message structured according to the invention) is considerably higher if compared to a security-oriented message. As shown in the

security-oriented message in Fig. 3, in which as shown in Fig. 3—each data packet 3 and 3' includes ~~comprises~~ both the security-relevant data, (i.e. in particular the user data), and a data protection value based on the security-relevant data. T, whereas ~~these two elements are differently encoded.~~

Please revise the paragraph on page 10, line 29 to page 11, line 2 as follows.

To guarantee a high level of error protection for the sending and/or forwarding of security-relevant data by insecure slave users and/or an insecure master in addition to ~~In order to additionally guarantee~~ ~~— besides the enhanced user data rate—, in particular with the transmission of a security-relevant data set comprising only a small volume of user data 11, a high level of error protection for the sending and/or forwarding of security relevant data by insecure slave users and/or an insecure master, the data protection value 21 that consequently has an increased number of bits is particularly effective.~~